



ON THE  
EXCITING CAUSE  
OF THE  
EPIDEMIC CHOLERA.  
AND THE MEANS TO BE ADOPTED TO  
PREVENT ITS SPREAD.

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ASIATIC-CHOLERA,

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PREVENT ITS SPREAD.

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BY  
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## ON THE EXCITING CAUSE OF THE ASIATIC CHOLERA AND THE MEANS TO BE ADOPTED TO PREVENT ITS SPREAD.

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*To the Editor of the Barnsley Chronicle.*

Sir,—I hope you will allow me, through your paper, to make some observations on the Asiatic cholera, to give my opinion on what I believe to be the most likely means to prevent the inhabitants of Barnsley becoming a prey to this epidemic which now prevails in some of our seaports, and in otherparts of England. Every intelligent person must admit that the most important knowledge required for preventing attacks of any epidemic when it is prevalent is the knowing the great cause of it: if a man does not he will be in the dark, and may expose himself to the danger of taking it. The object of my letter is to show that though there are causes which predispose persons to attacks of Asiatic cholera, yet the exciting or immediate cause of it is infection. In giving this opinion, I must not be understood as denying the importance of good sanitary measures in preventing cholera. Every one admits the importance of good drainage, and of removing any accumulation of vegetable and animal matters undergoing decomposition in the neighbourhood of any habitation, and also of strict cleanliness. The people living in localities in a bad sanitary condition not only become predisposed to attacks of the cholera from injury done to their health, but such places lodge the infectious matters causing this disease and favour the spread of it. The same may be said of want of cleanliness of habits. But however valuable good sanitary measures and strict cleanliness may be, yet there are facts which, in my opinion, demonstrate that they will not give security against cholera in persons whose state of health predisposes them to attacks from this disease. There are few or no places in England where this disease was so fearfully fatal as in the West Yorkshire Lunatic Asylum, in the year

1849. When the Asiatic cholera was prevalent in this establishment it was inspected by the late Mr West, F.R.S. an able chemist and another gentleman. They carefully examined everything relating to the sanitary condition of the asylum. The drains were opened by their desire and in their presence. In their report they say that in their judgment the drainage was complete and efficient. They did not find upon the premises or in the neighbourhood of the asylum any collection of filth or stagnant water. The ventilation of the asylum was sufficient and good. As to the general cleanliness they found it carried out to the highest degree. These gentlemen conclude their report by saying, "On a review of the whole circumstances we have found in regard to the matters submitted to us, nothing to recommend for improvement. All appears to have been done which could be done."

The inspectors, when they gave their report, did not give it as their opinion that infection was the cause of the disease in the Asylum. They appear to have been ignorant of the important fact afterwards stated by Dr. Wright, the physician to the Asylum, in his published report of the disease in that establishment,—that a female from Gomersal workhouse was admitted into the Asylum just before the general outbreak in it, who soon after her arrival was affected with diarrhoea and vomiting, and afterwards became collapsed and livid, but she slowly recovered. Fatal cases of cholera occurred soon after in the same ward, and then it became general in the Asylum. It is worthy of remark that Dr. Wright states that the Asiatic cholera was imported into the Gomersal workhouse in a similar way as into the Asylum at Wakefield, and was followed by several fatal cases.

The facts which I have given I think clearly show that good sanitary measures and strict cleanliness will not give security from attacks of the cholera in those persons whose state of health predisposes them to take this disease.

The reason why some medical practitioners have dis-

believed in the infectious nature of Asiatic cholera, that there is a numerous class of persons who are little, and many of them not at all susceptible of this disease. Those who are in good health and are well fed and well lodged provided they are temperate in their habits, and moderately worked, seldom have any fatal attacks of this disease. The class of persons most liable to become a prey to the Asiatic cholera are those who are ill-fed and suffering from other evils of poverty, especially if they are living in crowded habitations and are intemperate in their habits. When this disease prevails amongst persons of this class it is very fatal to their children, generally in the form of diarrhoea. The Asiatic cholera may be considered a poor blood disease, but there are other causes besides poverty which produce an unhealthy state of the blood. All persons in every class of life whose vital powers are weakened by ill health, intemperance, or old age, or by constantly breathing an impure atmosphere in large towns, or where it is contaminated by any cause, are liable to become prey to cholera, if exposed to the influence of the poison producing this disease. I must here add that it is impossible to say of individuals of any class what susceptibility to this disease they may or may not possess, for there are instances of persons being seized with it who appear the least likely to take it, and very many escape who have been exposed to it whom we might think were the most susceptible. The same reasons equally apply to all other causes to which cholera may be attributed by persons who deny its infectious nature.

It may appear to some persons as equally unnecessary to give facts to prove the infectious nature of Asiatic cholera, as to give cases to prove that small pox and scarlet fever are infectious diseases. There are eminent medical men who once denied the infectious nature of this disease who now acknowledge that infection is the sole cause of it, amongst whom is Dr. Simon, who was Officer of Health to the late General Board of Health, and now to the Privy Council. We may be sure that facts which clearly prove the infectious nature of this disease have compelled



Dr. Simon to alter his opinion. As there are some persons who still either question or deny the infectious nature of Asiatic cholera, and long articles appear in the newspapers giving advice as to what is to be done to prevent the spread of it, which ignore its infectious nature, I think I may be allowed to give some facts which have occurred in Barnsley that have fully convinced me that it is an infectious disease. The first case I saw of Asiatic cholera was in the old workhouse in Barnsley, in the year 1832. The subject of it was a tramp who was taken severely ill with it on the road, a few miles from this town, and was conveyed to the old workhouse. This case soon terminated fatally, and six other fatal cases occurred in that establishment. Soon after the importation of this disease into the old workhouse, another tramp brought it into a lodging-house in the Gas Nook, and many fatal cases occurred in the locality. It afterwards spread in other parts of the town. Though I took an active part as a medical practitioner during the first appearance of the cholera in this town, I had not then a sufficient opportunity of observing the facts connected with its spread. Dr. Dow was the medical attendant of the poor of Barnsley during the year 1832. He had a fatal attack of this disease, and Mr. Ayre, his partner, told me that there were two other cases in Dr. Dow's household, but they were not of a severe character, therefore, both of them recovered. Dr. Dow had some relations living in the house just opposite to his own. The disease was conveyed to this house, and three of its inmates had fatal attacks of it. During the year 1832 cases of this disease in the Northern part of the town were, I believe, confined to the three establishments I have named, except the case of an aged man, who, I was told, had died of it. I have no knowledge of any particulars relating to this case.

When the cholera again prevailed in Barnsley in 1849, I had then ample opportunities of forming a correct opinion of the cause of its spread. I was, during that year, the medical attendant of the whole of the poor of this town. The facts that I then witnessed fully convinced me that infection was the great cause of this disease. The first cases occurred in



lodging-houses, and there was the clearest possible evidence that it was introduced by tramps. In three lodging-houses where this disease was introduced, two of the keepers of them had fatal attacks of it, and other cases followed in the same houses. The keeper of the other house had one so severe, that he narrowly escaped with his life. I cannot refrain here from paying a tribute of respect to this man's memory. His name was Latham, and he kept a lodging-house in the Gas Nook. I was afraid the disease might spread in the neighbourhood, therefore, I asked him to lock the tramp up in a room, and let no one go near him but himself. He did as I advised, and though he was seized by it, no other case followed in that locality. I afterwards attended many cases of cholera at Barebones. It is necessary to notice here that previous to the appearance of the cholera in that part of the town, it had been brought by a boat to Worsbro' Bridge. The case of cholera imported to this place terminated fatally, and several other fatal cases soon followed in the houses near the basin of the canal where the boat was that brought the disease. A man who was working about the boat lived on the top of Worsbro' Common. He had an attack of this disease, and several fatal cases followed in that locality. One of the first cases I was called to attend on Barebones was a girl, who, on inquiry, I was informed, had been into a house on Worsbro' Common, where one of the inmates of it had died of the cholera. The disease spread down Barebones, and on the top of New-street and other parts of Wilson's-piece. There were many other cases in other parts of the town, attended by myself and other medical men. In all the cases of cholera I was called to attend, I endeavoured to trace the cause of it, and *in many instances besides those I have named there was the clearest evidence that infection was the cause.* I do not say that I could in all cases trace this disease to infection, for this cannot be done in all cases of small-pox and scarlet fever, which are acknowledged to be purely infectious diseases. It is truly said that 'pestilence walketh in darkness,' for there are a variety of secret ways by which the poison producing cholera may be disseminated and

cause the disease. I may here observe that, to my knowledge, there were only three houses affected with cholera in the northern part of the town in the year 1849. One was the case of a man living in a house in Shambles-street. He had been attending some of his relations, residing in Union row, who had fatal attacks of the cholera. His case was not a severe one; it might be called cholérine, but I knew that he had been exposed to the infection of Asiatic cholera, therefore I believed it to be a mild form of this disease. When I first saw him, he had two of his children in bed with him. I told him the danger they were in, and they were removed, but in a few days they both died with unmistakable symptoms of Asiatic cholera. The other two houses were those of tradesmen. One had been to Bradford, where the cholera was raging, and was seized with the disease soon after his return. The other had been residing in the neighbourhood of Wakefield, where the cholera was prevalent. He came to Barnsley to visit his friends, with the incipient symptoms of this disease. Both these cases were rather severe ones; but the patients recovered, and were not followed by any other in their households.

I could adduce equally strong facts to show the infectious nature of cholera, from what occurred in the neighbouring villago of Cawthorne when this disease was introduced thero in the year 1849 by a person affected with cholérine. A number of fatal cases of cholera followed soon after its introduction, and the evidence was so clear that it was infectious, and that I think I may safely say that there was not any person in the villago who did not believe that infection was the sole cause of its spread.

I believe that facts attending the history of cholera in Barnsley and the neighbourhood plainly show that the most national way for individuals to protect themselves from attacks of this disease, and hoards of health to prevent the spread of it, is to guard against the infection producing it.

The vital question is, what are the best means to prevent the spread of the poison causing cholera

There are good reasons for believing that the choleraic discharges are the chief and probably the only cause of infection; but everything contaminated with them, whether bedding, clothes, or the atmosphere, is capable of communicating this disease. This shows the importance of strict cleanliness and good ventilation. It has been maintained by some respectable authors, that water contaminated with choleraic discharges is by far the most common way by which the poison-producing cholera is conveyed into the system, though I must say that the facts which have come under my own observation do not corroborate this opinion, yet it appears so very reasonable to believe that the choleraic poison conveyed into the stomach by any means should produce cholera, that I think it behoves every one to use every precaution to avoid drinking water, when there is any probability that the smallest portion of the choleraic discharges may be contained in it. It is for this reason I think it would be well for every one to avoid taking water which has been kept in a house where a case of cholera exists, which has been so exposed that it may have imbibed a portion of the choleraic poison from an atmosphere charged with it. Such a fearful power in producing this disease is attributed by some authors to water contaminated in a very slight degree with these discharges, that it appears advisable, when there is the slightest suspicion of impurity in any water, that it should be boiled before it is drunk. For the same reason, every one should avoid taking food which has been touched by hands made impure by coming in contact with any portion of the choleraic discharges either from the stomach or the bowels. As it would give so little trouble as a matter of precaution, it would be well for every inmate of a house where a case of cholera exists, to wash his hands before he takes any food which he handles.

Though I admit the great importance of avoiding introducing the choleraic poison into the stomach either by water or food, yet it appears to me from what I have seen of cholera, that the great majority of cases of this disease are caused by the poison producing it getting into the system by the breathing an

atmosphere contaminated with it, though it is possible that a portion of it may get into the stomach in this way so as to cause the disease.

Every one who believes that cholera is an infectious disease must see that it is highly desirable that persons affected with it should be kept separate from the healthy, except those required to attend them, as far as circumstances will admit. In many poor families attacked with the cholera, the doing of this is very difficult, if possible, but every one ought to know that there is nothing gives a more fearful power for the spread of cholera than crowded habitations. In cases where a person affected with cholera cannot have a separate room, every possible means ought to be adopted to see that the place he is in should be well ventilated.

As there are strong reasons to lead us to believe that particles of matter from the discharges of a person suffering from cholera are the chief means by which the disease is communicated to others, it is important that the discharges from the bowels and even those of the stomach, as far as possible, should have some disinfectant freely added to them before they are disposed of. It is generally admitted that that chlorine is a powerful disinfectant, and many think it the best. Some prefer carbolic acid, others Condy's Solution or the sulphate of iron (called green copperas) as disinfectants. The medical attendant of any patient will, of course, use that disinfectant which he thinks the best and give directions for its use. I may be allowed to say that chlorine is one of the cheapest, and as bleaching liquor contains chlorine, and can be so abundantly supplied in the neighbourhood, it appears to me that people will be easily induced to use it freely.

There are different opinions about a variety of disinfectants, but I think no one denies the disinfecting power of strong heat. I am strongly inclined to believe that there is no disinfectant equal to it. There cannot, I think, be any doubt that a burning heat destroys the power of all morbid poisons, therefore it is probable that strong heat with moisture has a similar

power. It is for this reason I should recommend that boiling water should be poured upon the choleraic discharges before any other disinfectant is added to them. This can easily be done by keeping a kettle full of boiling water in the house of the sick person. As we know nothing for a certainty of the chemistry of morbid poisons, and as they differ in their nature, it would be well after all has been done that is likely to destroy their noxious power, to bury them in the earth, when it is practicable, so as to prevent the possibility of their doing any harm.

It has been recommended by some men of high authority that in case the cholera occurs in houses which have no water closets that the discharges should be thrown into the gully holes. I do not say that this should not be done, but I do say that except we are certain that all their noxious power is destroyed it is important that great care should be taken to wash the gully holes well every time these matters are thrown into them. It is advisable that this should be done by some disinfecting fluid. If due care is not taken persons passing by the gully holes may imbibe a portion of the choleraic poison, so as to cause them to have the cholera. It should be remembered that if the choleraic matters are thrown into the sewers, not deprived of their noxious gases, they will circulate through parts of the town. When this is the case it would be important that the apparatus of the gully holes, and the stink traps, and water closets, in all houses should be kept in perfect order. The great quantity of rain which has fallen the last week must have well washed out our sewers, but if the cholera prevails in Barnsley they must be frequently flushed and disinfected as far as possible. We may be sure that if the poison causing Asiatic cholera is not introduced into our sewers that it will not come out of them.

When the choleraic discharges are buried in the ashpit some pisinfecting fluid should again be thrown upon them when in the ashes. It is to be hoped that no one will be so careless as to dispose of them in a way likely to injure his neighbours. It would be



wrong to throw them into the seat of a privy even if they were covered with ashes. Every one should, as far as possible, avoid using a privy attached to a house where there are cases of cholera.

It may be advisable to sprinkle well the floor and even the walls of a room with some disinfectant, in which there are cases of cholera if there be any offensive smell. Though it may be well to do this, every one ought to know that for purifying the air of any room charged with the choleraic poison there is no disinfectant for a moment to be compared to that furnished by God and nature, which is fresh air, provided there be an abundant supply of it and it has fair play, it would be a fatal mistake to substitute anything for it.

In order to prevent the lodgement of any of the choleraic poison in a house where there has been cases of cholera, if it is not subjected to a regular process of disinfection, it should be well cleaned and lime washed.

It has been clearly shown that the linen and bedding of those affected with cholera are frequently the means of conveying it to others. It is therefore important that they should be disinfected before they are washed. I believe for this purpose there is nothing equal to the immersing them for some time in boiling water. Articles of bedding, or clothes, or anything else which do not admit of this being done, should be exposed to a strong dry heat. It is stated that cotton and various other materials for clothing are not injured by being for several hours exposed to a dry temperature of  $212^{\circ}$  and even  $250^{\circ}$  of Fahrenheit. The late Dr. Henry, of Manchester, stated that "He found that a series of eight flannel waistcoats worn for several hours by patients in distinctly marked scarlet fever, afterwards exposed to heat varying from  $200^{\circ}$  to  $204^{\circ}$ , and eventually worn by children not having had scarlet fever, did not communicate the disease to those children." The great power of strong heat as a disinfectant is worthy of the serious consideration of the public.

When any articles are strongly impregnated with the choleraic poison, and they cannot be either boiled or *baked*, there are many cases where it is desirable that they should be burned. In many instances the

doing of this has been found the most effectual way of "stamping out" the cholera.

I have not the least doubt, from what I have seen of the cholera, that the clothes of a person not affected with it, when they have been exposed for some time to the exhalations arising from choleraic discharges, are capable of communicating the disease. I know that they have often an offensive smell. It is for this reason I think it dangerous for persons to congregate together at funerals, at the houses where a death has occurred from cholera, or in following the corpse to the grave. No one should consider it his duty in this way to pay respect to the dead.

Every one knows the strict precautions adopted by our government to prevent the cattle plague. The law imposes a heavy penalty on those who remove cattle from one place to another when there is any probability that they may spread the disease. I think a similar precaution ought to be shown, as far as it is practicable and reasonable, to prevent the lives of human beings falling victims to the cholera. It is for this reason that I think it wrong for any persons when they have the cholera in their houses to have any unnecessary communication with their neighbours. It is also wrong in persons affected with diarrhœa, and living in a locality where the Asiatic cholera prevails, in their not keeping at home, for it has been clearly shown that what is called cholerine is capable of causing a full developed case of cholera in others. Every one ought to know that it is impossible to distinguish individual cases of diarrhœa, caused by the choleraic poison, from those arising by ordinary causes. Neither is it possible to distinguish a severe individual case of English cholera from an attack of the Asiatic. I am not without some suspicion, from what I have seen and read, that in some instances the English cholera possesses a certain power of infection, though there is not any evidence to show that it ever propagates itself to any extent. If it is in any degree infectious, experience shows that its infectious power soon dies out. I think no one should consider it folly to use a little precaution, even in cases of English cholera, at the present time. If people do so there will not be so



much danger when they mistake a case of Asiatic cholera for the English, so as to cause a propagation of the malignant form of it.

The malignant epidemic cholera is justly called Asiatic, for it is of foreign origin. Those who attempt to show that it may originate in our climate I think are bound to give facts to prove that it has prevailed in this country before the poison was imported into it, for we do not know how long in particular instances it may have lain dormant, and again excited into action by circumstances and a state of the atmosphere favourable to giving it active powers.

Severe and fatal cases of cholera from local causes are so common in India and hot climates, that many respectable practitioners have been led to deny that it is even infectious. In my last address to the Board of Health I gave it as my opinion that the malignant infectious cholera which has of late years been occasionally prevalent in this country, is the ordinary cholera of hot climates which has assumed the seeds of infection so that it is capable of propagating itself independent of local causes producing it. I could give facts to show that this is the case with the yellow fever and other diseases that could be named which have excited such warm disputes amongst medical men whether they are or are not infectious.

I may here observe that though I always believed the Asiatic cholera was infectious, yet, relying upon authorities, I did not think that infection was the great cause of its spread, before the facts which I witnessed when it last prevailed in this town, in the year 1849, convinced me that it was. I shall leave the public to judge whether the facts I have given justifies me in altering my opinion. Those that do not agree with me that these facts prove infection is the great cause of the spread of cholera, no others that I could give, founded on my own observations, will convince them. I do not pretend to say that there are no mysteries attending the history of cholera. Like other pestilences, it often "walks in darkness"; yet it is clear to me that contagion marks its steps.

There are some persons who may think that I am an alarmist in giving facts to show that infection is

the great cause of Asiatic cholera, and in recommending the means which I think advisable to be adopted for preventing its spread. I remember a medical gentleman, who was so fully convinced, from what he had seen of the Asiatic cholera, that it was an infectious disease, that he gave it as his opinion that intelligent practitioners who denied that it was infectious, after they had had sufficient opportunities of judging of the cause of its spread, were practising a pious fraud. I strongly object to pious frauds in cholera. I believe they do far more harm than good. I do not believe it possible for the most timid persons to frighten themselves into Asiatic cholera any more than they can frighten themselves into small pox or scarlet fever. As regards the belief in the infectious nature of cholera causing any neglect of those suffering from it, I can state that from my own experience, after forty years practice, that I never knew parents desert their children, or children their parents, or wives their husbands when suffering from infectious diseases, however virulent they might be. I believe also there is sufficient humanity and courage in women of the working classes to induce them to act as nurses to the friendless and helpless, provided they are well paid, as in justice they should be. If nurses are properly selected there is not so much danger of their taking the disease as some persons may believe there is.

In concluding, I may observe that I am fully aware of the difficulties of carrying out all the measures I have recommended for preventing the spread of cholera, but every one must admit that it is important to know what are the best, so that they may be followed as far as circumstances admit. I have endeavoured to give, in a plain way, what I think the best, and I shall be gratified if any one can suggest anything that is better. I am sorry that my letter is so long, but I hope every one will excuse me in wishing to avoid writing on such an important subject in a superficial manner.—Yours respectfully,

MICHAEL THOMAS SADLER.

Officer of Health.

Barnsley, August 2nd, 1866.



John Simon



~~44 Great Britain~~  
R. Richardson



